Amendments to the Drawings:

The attached sheet of drawing includes changes made to FIG. 1. The drawing sheet, which includes FIG. 1, replaces the original sheet including FIG. 1.

Attachment: Replacement Sheet 1 page

REMARKS/ARGUMENTS

Amendments to the Claims

In response to Examiner's claim objections made to misnumbered claims 25, 27, and 29-30 (renumbered as claims 24, 26, and 28-29) in the Office Action dated 03/24/2008, the dependencies of claims 24, 26, and 28-29 have been amended based on Examiner's suggestion.

To more clearly define the claimed feature, the limitation "generating an estimated carrier frequency offset according to a phase error of the estimated frequency response of the symbol signal and a following symbol signal" recited in claim 1 has been amended to read "generating an estimated carrier frequency offset according to a phase error between the estimated frequency response of the symbol signal and an estimated frequency response of a following symbol signal," which is fully supported by lines 16-18 on page 9 of the originally filed specification.

The applicant believes that no new matter is introduced. Acceptance of above-identified claim amendment is respectfully requested.

Objections to Claims

Claims 24, 26, and 28-29 have been amended to overcome the objections.

Objections to Drawings

A legend "PRIOR ART" has been added to Fig. 1 to overcome the objections.

Claim Rejections under 35 U.S.C. 102(b)

Claims 1, 3-7, 12-13, 15, 18 (apparatus) & 20-21, 23-26 (method) are rejected under 35 U.S.C. 102(b) as being anticipated by Masato et al. (Japanese Publication Number: 2001-053712 (English machine translation)).

Response:

Claim 1

The applicant asserts the limitations of claim 1 are not anticipated by Masato. Rationale is given as below. Referring to the teachings of Masato (paragraph [0020] lines 8-15 and drawing 3; paragraph [0025] lines 8-11 and drawing 4), Masato discloses:

*The draw ..., **regular phase rotation is amended using this detected phase rotation signal s205**, and the phase correction signal s206 is outputted.*

The draw of the pilot subcarrier signal s304 is performed to the channel equalization signal s303 in the pilot subcarrier selected output circuit 304. In the phase rotation detector circuit 307, the phase rotation s306 for every subcarrier is detected using the pilot data signal s305 memorized to the pilot subcarrier signal s304 in the pilot data signal store circuit 306.

As mentioned above, Masato discloses selecting the pilot subcarrier signal, detecting the phase rotation signal from the pilot subcarrier signal, and using the **phase rotation** signal **to amend regular phase rotation**. That is, Masato merely teaches generating a phase rotation signal used for adjusting regular phase rotation according to a pilot subcarrier signal. Therefore, Masato fails to disclose a **phase error between the estimated frequency response of the symbol signal and an estimated frequency response of a following symbol signal**, and also fails to disclose generating an estimated **carrier frequency offset according to this phase error**. In short, Masato fails to disclose the limitation "generating an estimated carrier frequency offset according to a phase error between the estimated frequency response of the symbol signal and an estimated frequency response of a following symbol signal" as recited in claim 1.

Based on the above arguments, Masato fails to teach an estimated **carrier frequency offset** as recited in applicant's claim 1, the accumulation phase rotation detector circuit (309) of Masato does not generate the accumulation phase rotation signal (s308) based on an estimated **carrier frequency offset**. Accordingly, Masato fails to disclose the limitation "calculating an accumulated phase rotation according to the estimated carrier frequency offset" recited in claim 1.

In light of above reasons, the limitations of claim 1 are not anticipated by Masato.

Claim 1 has overcome the rejection under 35 U.S.C. 102(b), and has been placed in condition for allowance. Withdraw of the rejection made to claim 1 is respectfully requested.

Claim 5

The applicant asserts that Masato fails to disclose the limitations of claim 5. Referring to the teachings of Masato (paragraph [0025] lines 12-14), Masato discloses:

In the phase rotation averaging circuit 308, the average phase rotation s307 which averaged the ***phase of the pilot numerals in 1 OFDM symbol*** *is detected.*

That is, Masato merely discloses averaging phase values of pilot signals in **one** OFDM symbol signal. However, a person skilled in this art should appreciate that a phase value of **a pilot signal in a symbol signal** is by no means identical to a phase error generated according to the estimated frequency response of **one of pilot signals of the symbol signal** and that of **a corresponding pilot signal of the following symbol signal**. Therefore, averaging the phase values of Masato is **by no means** identical to averaging the phase errors recited in claim 5. Based on the reasons, the limitations of claim 5 are not anticipated by Masato, and claim 5 should be found allowable over the cited prior art. In addition, claim 5 is dependent upon claim 1, and should be allowed if claim 1 is found allowable.

Claim 6

The applicant asserts that the limitations of claim 6 are not anticipated by Masato. Referring to the teachings of Masato (paragraph [0025] lines 8-21 and drawing 4), Masato discloses:

The draw of the pilot subcarrier signal s304 is performed to the ***channel equalization signal s303*** *in the pilot subcarrier selected output circuit 304. In the phase rotation detector circuit 307, the* ***phase rotation s306 for every subcarrier is detected using the pilot data signal s305*** *memorized to the pilot subcarrier signal s304 in the pilot data signal store circuit 306. In the phase rotation averaging circuit 308, the average phase rotation s307 which averaged the phase of the pilot*

numerals in 1 OFDM symbol is detected... In the phase compensator 305, phase rotation amendment is performed using the phase rotation signal s309 to the ***channel equalization signal s303****.*

As mentioned above, Masato discloses generating a phase rotation value using a pilot data signal derived from a **channel equalization signal**, and compensating the **channel equalization signal** using the generated phase rotation value. In other words, Masato merely teaches generating a phase rotation value according to a pilot signal of a symbol signal and compensating **the same** symbol signal according to the phase rotation signal. The applicant points out that generating a phase rotation value according to a **pilot signal** as taught by Masato is by no means identical to generating an estimated residual phase error between **the extracted pilot signal and an original pilot signal** as disclosed by the present invention; in addition, compensating the **same symbol signal** according to the phase rotation signal as taught by Masato is by no means identical to compensating a **following symbol signal** according to the estimated residual phase error as disclosed by the present invention. Accordingly, the limitations "generating an estimated residual phase error between the extracted pilot signal and an original pilot signal" and "compensating a following symbol signal according to the estimated residual phase error" recited in claim 6 are not disclosed by Masato.

Furthermore, the applicant finds no description in Masato pertinent to a buffer for storing the estimated residual phase error. Therefore, the applicant believes that Masato fails to disclose the limitation "a buffer for storing the estimated residual phase error" recited in claim 6.

In light of above reasons, the limitations of claim 6 are not anticipated by Masato. Claim 6 has overcome the rejection under 35 U.S.C. 102(b), and has been placed in condition for allowance. Withdraw of the rejection made to claim 6 is respectfully requested.

Claim 12

The applicant asserts that the limitations of claim 12 are not anticipated by Masato.

Referring to the teachings of Masato (paragraph [0020] lines 1-2), Masato discloses:

As for a received OFDM signal, in AFC circuit 201, amendment of the carrier frequency error of an input signal is performed.

That is, Masato discloses the AFC circuit (201) to adjust the carrier frequency error. Referring to drawing 3 of Masato, however, there is no feedback path for transmitting outputs of the channel equalization circuit (203) back to the AFC circuit (201). In other words, the AFC circuit (201) of Masato does not operate based on a signal of the channel equalization circuit (203). Therefore, the applicant contends that Masato fails to disclose the limitation "perform a frequency offset compensation according to an **estimated frequency response** of the pilot subchannel transmitting the pilot signal" recited in claim 12.

In addition, Masato's phase compensator (206) is to compensate the channel equalization signal (s203) according to the detected **phase rotation** signal (s205). However, the limitation that the phase compensator in the present invention compensates the frequency offset compensated symbol signal according to an estimated residual **phase error** of the pilot signal is not taught by Masato. The applicant respectfully points out that a person skilled in this art should appreciate that a **phase rotation (i.e., a phase value)** of a pilot signal is by no means identical to an estimated residual **phase error** of a pilot signal. Accordingly, the applicant contends that the limitation "perform a phase compensation on the frequency offset compensated symbol signal according to an estimated residual phase error of the pilot signal" recited in claim 12 is not disclosed by Masato.

In light of above reasons, the limitations of claim 12 are not anticipated by Masato. Claim 12 has overcome the rejection under 35 U.S.C. 102(b), and has been placed in condition for allowance. Withdraw of the rejection made to claim 12 is respectfully requested.

Claims 15-16

In view of above arguments of claim 1, the limitations of claim 15 are not anticipated by Masato. In addition, claim 15 is dependent upon claim 12, and should be allowed if claim

12 is found allowable.

In view of above arguments of claim 6, the limitations of claim 16 are not anticipated by Masato. In addition, claim 16 is dependent upon claim 12, and should be allowed if claim 12 is found allowable.

Claims 20 and 24

In view of above arguments of claim 1, that the limitations of claim 20 are not anticipated by Masato. Claim 20 has overcome the rejections under 35 U.S.C. 102(b), and has been placed in condition for allowance. Withdraw of the rejection made to claim 20 is respectfully requested.

In view of above arguments of claim 5, that the limitations of claim 24 are not anticipated by Masato. In addition, claim 24 is dependent upon claim 20, and should be allowed if claim 20 is found allowable.

Claim 25

In view of above arguments of claim 6, the limitations of claim 25 are not anticipated by Masato. Claim 25 has overcome the rejection under 35 U.S.C. 102(b), and has been placed in condition for allowance. Withdraw of the rejection made to claim 25 is respectfully requested.

Claim 26

In view of above arguments of claim 5, the applicant contends that the a person skilled in this art should appreciate that phase values of **different pilot signals in a symbol signal** are by no means identical to estimated residual phase errors **between each of the extracted pilot signal and a corresponding original pilot signal**. Therefore, averaging the phase values of Masato is **by no means** identical to averaging the estimated residual phase errors as recited in claim 26. Based on above reasons, the applicant asserts that the limitations of claim 26 are not anticipated by Masato, and claim 26 should be found allowable over the cited prior

art. In addition, claim 26 is dependent upon claim 25, and should be allowed if claim 25 is found allowable.

Claims 3, 4, 7, 13, 18, 21, and 23

Claims 3 and 4 are dependent upon claim 1, and should be allowed if claim 1 is found allowable. Claim 7 is dependent upon claim 6, and should be allowed if claim 6 is found allowable. Claims 13 and 18 are dependent upon claim 12, and should be allowed if claim 12 is found allowable. Claims 21 and 23 are dependent upon claim 20, and should be allowed if claim 20 is found allowable.

Claim Rejections under 35 U.S.C. 103(a)

Claims 2, 14 (apparatus) & 22 (method) are rejected under 35 U.S.C. 103(a) as being unpatentable over Masato et al. (Japanese Publication Number: 2001-053712 (English machine translation)) in view of Frank et al. (7,324,599).

Claims 9-11 (apparatus) & 27-29 (method) are rejected under 35 U.S.C. 103(a) as being unpatentable over Masato et al. (Japanese Publication Number: 2001-053712 (English machine translation)).

Response:

Claim 9

In view of above arguments of claim 6, a person skilled in this art should appreciate that generating a phase rotation value according to **one pilot signal** is by no means identical to generating an estimated residual phase error between **the channel-compensated pilot signal and an original pilot signal**. Therefore, the limitation "generating an estimated residual phase error between the channel-compensated pilot signal and an original pilot signal" recited in claim 9 is not taught or suggested by Masato; claim 9 should be found allowable over Masato. Claim 9 has overcome the rejection under 35 U.S.C. 103(a), and has been placed in condition for allowance. Withdraw of the rejection made to claim 9 is respectfully requested.

Claim 27

In view of above arguments of claim 9, the applicant asserts that the limitation "generating an estimated residual phase error between the channel-compensated pilot signal and an original pilot signal transmitted the transmitter" recited in claim 27 is not taught or suggested by Masato.

In addition, the applicant finds no description in Masato pertinent to the limitation "**extracting** the data signal according to the estimated residual phase error" recited in claim 27. Therefore, the limitations of claim 27 are not taught or suggested by Masato; claim 27 should be found allowable over the cited prior art. Claim 27 has overcome the rejection under 35 U.S.C. 103(a), and has been placed in condition for allowance. Withdraw of the rejection made to claim 27 is respectfully requested.

Claims 2, 10-11, 14, 22, 28-29

Claim 2 is dependent upon claim 1, and should be allowed if claim 1 is found allowable. Claims 10-11 are dependent upon claim 9, and should be allowed if claim 9 is found allowable. Claim 14 is dependent upon claim 12, and should be allowed if claim 12 is found allowable. Claim 22 is dependent upon claim 20, and should be allowed if claim 20 is found allowable. Claim 28-29 are dependent upon claim 27, and should be allowed if claim 27 is found allowable.

Other Matters

With regard to applicant's claims 8, 17, and 19, the applicant does not find Examiner's opinions directed to patentability of these claims in the Office action dated 03/24/2008. However, the applicant asserts that these claims have been placed in condition for allowance. Rationale is given as below.

Claim 8

In view of above arguments of claim 26, the applicant believes the limitations of claim 8 are not anticipated by Masato. Additionally, the applicant finds no description in Masato pertinent to the limitation "generating a plurality of estimated residual phase errors between **each of the extracted pilot signal** and **a corresponding original pilot signal**" recited in claim 8. Therefore, the limitations of claim 8 are not taught or suggested by Masato and Frank, alone or in combination. Claim 8 therefore should be found allowable over the cited prior art. In addition, claim 8 is dependent upon claim 6, and should be allowed if claim 6 is found allowable.

Claims 17 and 19

In view of above arguments of claim 27, the applicant believes that the limitation "generating an estimated residual phase error between **the channel-compensated pilot signal** and an **original pilot signal** transmitted the transmitter" recited in claim 17 is not taught or suggested by Masato. Additionally, after carefully reviewing the whole teachings of Frank, the applicant respectfully points out that no description pertinent to above-identified limitation as recited in claim 17 is found. Therefore, the limitations of claim 17 are not taught or suggested by Masato and Frank, alone or in combination. Claim 17 therefore should be found allowable over the cited prior art. In addition, claim 17 is dependent upon claim 12, and should be allowed if claim 12 is found allowable.

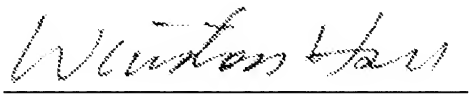
As claim 19 has the limitations similar to that of claim 17, the applicant believes that claim 19 should be found allowable over the cited prior art. In addition, claim 19 is dependent upon claim 12, and should be allowed if claim 12 is found allowable.

Conclusion

Based on the above remarks/arguments, the applicants respectfully submits that all of the objections and rejections set forth in the Office Action dated 03/24/2008 have been overcome and the pending claims are in condition for allowance. Withdrawal of the rejections and reconsideration of the pending claims are respectfully requested. If a telephone

conference would facilitate the prosecution of this application, the Examiner is invited to contact the undersigned applicant's representative at the number indicated below.

Sincerely yours,



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Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)